**Building Renovation Project**

**Background**

Recently the XYZ company decided to extend their head office as they are making two more departments in the company related to I.T research and Customer monitoring. For that purpose, they want to extend their operations in the 2nd and 3rd floor also of the same building. Previously, they were only on the 1st floor and used to operate from there with the congested place given to them. But the growing profits in the business made them realize to hire more human resources and increase their services for the clients.

The problem which this project will address is that, the renovation will help the company to form its departments and extend the office space for its existing and new employees (Jensen & Maslesa, 2015).
**Objectives of the Project**

Following are the objectives that will be fulfilled with the completion of this project. These objectives will be achieved by applying Key performance indicators approach i.e. SMART method. Specific, measurable, accurate, reliable and time bound objectives (Sears et al., 2015).

* Repair the required floors of the building with high quality construction
* Increase the space for the hired human resource with easier accessibility, new restrooms and elevators
* Enhancement of effective functioning of the operations with extended capacity to store the systems.

**Project Scope**

The scope of this proposed project is to design and build second and third floor according to the requirements of the company with the facility of enough rest rooms and elevators. User requirements should be strictly followed while renovating the building. The specifications given to the sponsor from the client are incorporated after reviewing, taking advance change measures and administration of the client.

**Description of Phases of Project**

There are five main phases of this renovation project. They are:

The first step is the initiation phase in which the company checked the feasibility of the renovation they want to undertake. It was analyzed that the renovation is feasible for the company. The design was then sent to the counsel for planning permission and approval. The council took two-month time period from the company and ask the nearby residents for the approval. Once the planning permission along with the design was approved, next phase of the project started i.e. planning phase of all the key areas of the project. Second phase includes detailed planning of every area of the project i.e. communication, timeframe human resources, available resources etc. Third phase will be the execution phase in which real work will be executed with the help of project team. With this phase, monitoring and evaluation phase will take place, the performance will be evaluated n third project. In the end, the last phase named closure will end the project with lessons learned task.

**Project Charter**

***Methodology***

Hybrid methodology will be followed as it improves the deliverables quality in the project. The hybrid method is used in construction projects as a measure to save excess energy consumption and provide the environment friendly work in the construction (Juan et al.,2010).

**Project details**

The main stakeholders will be the client which the XYZ company, the project manager who is given the project processes authority and the sponsor. Apart from the, engineers, architect, surveyor and other people are also involved.

**Project Deliverables**

The deliverables that will be received at the end of the project are:

1. Renovated 2nd floor
2. Renovated 3rd floor
3. 2 additional restrooms
4. 2 elevators
5. Extra space for new employees

**Essential Stakeholders**

Client, Sponsor and Project Manager

**Project budget**

Looking at the nature of the current project, budget cannot be made completely fixed as it depends on the site review which will be performed before taking further orders on the project. The approved budget of the whole renovation project is $9,600. There are expected costs associated with the components which consists of hiring of project team, demolishment of existing space, framing, partitioning, cost of procurement, roof construction, plumbing etc. Below is the table made for budget calculation for different components of renovation.

**Expected Costs for Each Component**

|  |  |
| --- | --- |
| **Main Components of Renovation** | **Expected Budget** |
| 1. Hiring of Project team
 | $2000 |
| 1. Demolishment
 | $1500 |
| 1. Framing
 | $1800 |
| 1. Partitioning
 | $600 |
| 1. Procurement
 | $880 |
| 1. Roof/Exterior construction
 | $1200 |
| 1. Plumbing and Electric Services
 | $720 |
| 1. Insulation
 | $400 |
| 1. Interior Finish
 | $500 |
| **Total** | $9,600 |

**Project Schedule**

The project is expected to complete within 4.5 months. Buffer time period is given of 2 weeks above the 4.5 months. Keeping in consideration the risk factors of the renovation project, the schedule is formed according to the phases of the project as follows:

***Pre-Construction Phase***

It will take two months to approve the planning of the renovation of the project. After that, permits will be taken and project team will be hired. The whole process will take one week.

***Demolishment Phase***

The existing setup in the second and third floor will be cleared and the interior will be demolished and will be smoothened for the construction. This will take at least 4 weeks.

***Framing Phase***

The process of framing will be done in two weeks. Both the floors will be framed in the two respective departments.

***Partitioning Phase***

Partitioning will be done much early as compared to the other phases of the project. It will be completed in one week.

***Procurement Phase***

This phase is completely dependent on the weather conditions. It will be done in one week but due to any terrible weather conditions, this phase can be extended as due to snow and rain transportation will be unavailable.

***Roof/Exterior Construction Phase***

This phase is a bit difficult and hence 3 weeks will be taken for completion. Roof phase can get delayed due to weather conditions like rainy day or heavy snow therefore weather forecast is very important before the initiation of this phase.

***Plumbing and Electric Services Phase***

The whole network cabling and wiring will take one week as the cables will be installed on every corner of the two floors.

***Insulation Phase***

This phase will take almost one week to complete on time.

***Interior Finish Phase***

This is the last phase of the renovation project and will be completed in two weeks. Interior will be finished and will be carpeted all over the floors.

**Risk Analysis**

There are many risks associated with the renovation project. The top most risks are:

1. Safety Concerns (Extreme Risk)
2. Electric Wiring (High Risk)
3. Security Issue (Extreme Risk)
4. Plumbing not appropriate (Moderate Risk)
5. Weather Conditions (High Risk)
6. Change in Design (Low Risk)
7. Unavailability of materials in market (Minimum Risk)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Impact** | **1** | **2** | **3** | **4** | **5** |
| **Possibility** | **Insignificant**  | **Negligible** | **Reasonable** | **Major** | **Alarming** |
| **(81-100)%** | Change in Design | Inappropriate Plumbing | Weather Conditions | Security Issue | Safety Concerns |
| **(61-80)%** | Unavailability of materials | Change in Design | Inappropriate Plumbing | Electric Wiring | Security Issue |
| **(41-60)%** | Unavailability of materials | Change in Design | Inappropriate Plumbing | Weather Conditions | Electric Wiring |
| **(21-40)%** | Unavailability of materials | Change in Design | Change in Design | Inappropriate Plumbing | Weather Conditions |
| **(1-20)%** | Unavailability of materials | Unavailability of materials | Change in Design | Inappropriate Plumbing | Electric Wiring |

\*Light green represents Low Risk

\*Dark Green represents Minimum Risk

\*Yellow shows Moderate Risk

\*Pink depicts High Risk

\*Red reflects Extreme Risk and steps should be taken in time .

**References**

Jensen, P. A., & Maslesa, E. (2015). Value based building renovation–A tool for decision-making and evaluation. *Building and Environment*, *92*, 1-9.

Juan, Y. K., Gao, P., & Wang, J. (2010). A hybrid decision support system for sustainable office building renovation and energy performance improvement. *Energy and buildings*, *42*(3), 290-297.

Sears, S. K., Sears, G. A., Clough, R. H., Rounds, J. L., & Segner, R. O. (2015). *Construction project management*. John Wiley & Sons.